

**COMBINED EXPANSION DEVICE AND FOUR-WAY
REVERSING VALVE IN ECONOMIZED HEAT PUMPS**

ABSTRACT OF THE DISCLOSURE

A refrigerant system is operable in either heating mode or cooling mode. The system is also provided with an economizer cycle that will function in either heating mode or cooling mode. A four-way valve assembly selectively communicates refrigerant from either an indoor heat exchanger or outdoor heat exchanger to an economizer heat exchanger. The valve assembly further includes a restriction for restricting a refrigerant flow downstream of the economizer heat exchanger. The valve assembly provides two distinct restrictions such that a different size restriction is presented to the flow in cooling and heating modes. In this way, a single valve assembly can provide both the required routing for the alternative heating and cooling modes, and at the same time allow for distinct restriction sizes for the two modes without the necessity of separate expansion devices, also improving overall system cost and reliability.

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